



Training and support to utilize the Particle Tracking Model to study interception rearing complexes for endangered pallid sturgeon within the Missouri River

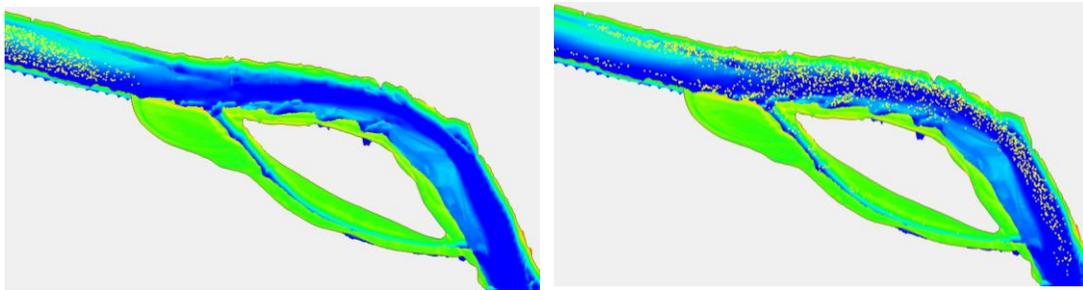
ERDC Dredging Operations Technical Support Program (DOTS)

U.S. ARMY CORPS OF ENGINEERS

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Response Summary:

The Kansas City District (NWK) is interested in modeling the transport of larval fish within the Missouri River to determine preferred habitat of endangered pallid sturgeon. NWK would like to develop Interception-rearing complexes (IRC) in the Missouri River. This requires producing areas which have specific velocity ranges and depths which are conducive to sturgeon wellbeing. This can be accomplished by adding structures to the existing river system. NWK required assistance is utilizing The Particle Tracking Model (PTM) for this purpose. NWK would like to use PTM to test the variations in the hydrodynamic solutions based on added man-made structures. NWK needed training to use PTM in the SMS environment as well as additional adjustments made to the model to fit their specific project.



Transport of larval fish within the Missouri River utilizing PTM neutrally buoyant particles

Period of Performance:

April 19, 2018 – July 27, 2018

During this period of performance ERDC developed workshop materials, trained NWK to utilize the PTM model and data analysis tools within the SMS environment, made minor adjustments to PTM specific to NWK for their case study, and trained NWK in new PTM version.

Benefits of the Response to the USACE Dredging/Navigation Program:

NWK will now be able to perform this modeling for the benefit of their transport and the endangered species fish species. This project has developed a framework for their future work in this effort as well as for other districts with similar concerns.

Deliverable:

- One week workshop (including new materials)
- Updated version of PTM that can be utilized at NWK as well as other districts interested in larval fish transport



Providing environmental and engineering technical support to the U.S. Army Corps of Engineers Operations and Maintenance navigation and dredging missions

Tahirih C. Lackey (tahirih.c.lackey@usace.army.mil)
Coastal and Hydraulics Laboratory

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